

ABSTRACT OF THE DISCLOSURE

A high copper low alloy steel sheet made by the steps comprising preparing a molten melt producing an as-cast low alloy steel comprising by weight, between 0.02 % and 0.3% carbon, between 0.10% and 1.5% manganese, between 0.01% and 5 0.5% silicon, less than 0.04% sulfur, greater than 0.01 % and less than or equal to 0.15% phosphorus, less than 0.05% aluminum, more than 0.20% copper, less than 0.03 % tin, and less than 0.10 % nickel, and the remainder iron and impurities resulting from melting, and solidifying the molten melt into sheet less than 10 mm in thickness in a non-oxidizing atmosphere to below 1080°C. The copper content may 10 be between 0.2% and 2.0% by weight. The high copper low alloy steel may also have a corrosion index (I) of at least 6.0 in accordance with ASTM G101 where: $I = 26.01 (\% \text{ Cu}) + 3.88 (\% \text{ Ni}) + 1.20 (\% \text{ Cr}) + 1.49 (\% \text{ Si}) + 17.28 (\% \text{ P}) - 7.29 (\% \text{ Cu})(\% \text{ Ni}) - 9.10 (\% \text{ Ni})(\% \text{ P}) - 33.39 (\% \text{ Cu})$. The high copper low alloy steel may be produced by twin roll casting, and may have thickness less than 5 mm or less than 2 15 mm in thickness.